

## REMARKS/ARGUMENTS

Claims 1, 2, 4-17 and 19-30 are under examination in the application. The Office Action mailed on April 27, 2009 includes the following objections and rejections:

1. Claims 1-2, 4-17 and 19-30 are rejected under 35 U.S.C. § 112, first paragraph, written description.
2. Claims 1-2, 4-11 and 25 are rejected under 35 U.S.C. § 102(b) / 103(a).
3. Claims 1-2, 13, 17 and 19-30 are rejected under 35 U.S.C. § 102/ 103(a).
4. Claims 1-2, 4-17 and 19-30 are rejected under 35 U.S.C. § 103(a).
5. Claims 14-16 are rejected under 35 U.S.C. § 103(a).

Claims 17, 19, 20, 21, 22, 29 and 30 have been cancelled and claims 33-43 have been added. The new claims are fully supported by the specification as filed specifically the claims and paragraphs 0023-0029 and tables 3 and 4 and as such do not introduce new matter.

***Claims 1-2, 4-17 and 19-30 are rejected under 35 U.S.C. § 112, first paragraph, written description.***

Applicants respectfully submit that the present application supports claims 1-2, 4-17 and 19-30 and fully complies with 35 U.S.C. § 112, first paragraph.

Applicant submits that the specification fully complies with the written description requirement, as the skilled artisan would readily know that given the physical parameters and characteristics of the polymers are amorphous polymers. Applicant submits that not everything necessary to practice the invention need be disclosed. In fact, what is well-known is best omitted. In re Buchner, 929 F.2d 660, 661, 18 USPQ2d 1331, 1332 (Fed. Cir. 1991). All that is necessary is that one skilled in the art be able to practice the claimed invention, given the level of knowledge and skill in the art. Further the scope of enablement must only bear a "reasonable

correlation" to the scope of the claims. See, e.g., *In re Fisher*, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970).

Applicants respectively disagree and assert that the present invention includes cationic polymers, cationic groups and cationic pendent groups from the polymer. As stated in paragraph [0043-0044].

Polymers are composed of cationic and anionic groups, present as part of the polymer backbone and as pendant structures attached to the backbone. Pendant ionic groups have much more ionic character and influence than do those in the backbone. Therefore, polymers having a high density of pendant cationic groups are preferred.

Therefore, it is clear that the present invention includes cationic polymers, cationic groups and cationic pendent groups from the polymer. Furthermore, the IUPAC Compendium of Chemical Terminology 2007 defines a cationic polymer as polymer having positive charged macromolecules, see below:

cationic polymer is a polymer composed of positively charged macromolecules and an equivalent amount of counter-anions. Notes: 1) If a substantial fraction of constitutional units carries positive charges, then a cationic polymer is a polyelectrolyte. 2) The positive charges may be fixed on groups located in main chains as in an ionene or in pendant groups. 3) The term cationic polymer should not be used to denote a polymer prepared by cationic polymerization. 2006, 78, 2069. IUPAC Compendium of Chemical Terminology 2007

Applicant submits that the specification fully complies with the written description requirement, as the skilled artisan would readily know that given the physical parameters and characteristics of the polymers are amorphous polymers.

As such, the use of cationic polymers is in compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter, rather than the presence or absence of literal support in the specification for the claim language. See *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-564, 19 USPQ2d 1111, 1116-117 (Fed. Cir. 1991) and *In re Kaslow*, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983). As such, the skilled artisan would readily understand that the polymers were amorphous cationic polymers and thus complies with the written description requirement.

Applicants respectfully request the Examiner withdraw the rejection under 35 U.S.C. § 112, first paragraph.

***Claims 1-2, 4-11 and 25 are rejected under 35 U.S.C. § 102(b)***

The Office Action also rejects claims 1-2, 4-11 and 25 under 35 U.S.C. § 102(b) as being as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sterman, et al., (Sterman) in U.S. Patent No. 3,493,461, which is said to disclose the claimed invention.

Sterman does not identically disclose every element of the claimed invention. See *Corning Glass Works v. Sumitomo Electric*, 9 USPQ 2d 1962, 1965 (Fed. Cir. 1989). A reference that excludes a claimed element, no matter how insubstantial or obvious, is enough to negate anticipation. *Connell v. Sears, Roebuck & Co.*, 220 USPQ 193, 198 (Fed. Cir. 1983).

Sterman discusses a glass fiber reinforced polyvinyl chloride resin article and process Therefor. Sterman does not disclose a water insoluble thermoplastic compound has a nonpolar solubility parameter  $\delta_n$  within the range of about 6.5 to about 8.5 g-cal/mole, a polar solubility parameter  $\delta_p$  within the range of zero to about 8.5 g-cal/mole, and a hydrogen bond solubility parameter  $\delta_h$ , within the range of zero to about 7.0 g-cal/mole. Furthermore, Sterman does not disclose the specific polymer compositions of the instant invention in new claims 33-43. For example, Sterman does not disclose a fibrous material; and a water insoluble\_thermoplastic compound has a molecular weight of at least 2500 g/mole that impregnates the fibrous material, wherein the water insoluble thermoplastic compound comprise about 5-15 weight percent Polyvinyl chloride, about 2-8 weight percent Polyacrylonitrile, about 5-15 weight percent Polymethacrylate, about 5-15 weight percent Polyamideimide, about 5-15 weight percent Polybutylacrylate, about 20-30 weight percent Polystyrene, and about 25-35 weight percent Polybutadiene, to inhibit deposition of one or more dissolved or particulate contaminants wherein the water insoluble thermoplastic compound has a nonpolar solubility parameter  $\delta_n$  of between 6.75-8 g-cal/mole, a polar solubility parameter  $\delta_p$  of between 4-5 g-cal/mole, and a hydrogen bond solubility parameter  $\delta_h$ , of between 3-4 g-cal/mole.

Applicants respectfully submit that claims 1-2, 4-11 and 25 are not anticipated by

Sterman. Sterman does not contain each and every limitation of the present invention. Applicants respectfully request the Examiner withdraw the rejection under 35 U.S.C. § 102(b).

***Claims 1-2, 4-11 and 25 are rejected under 35 U.S.C. § 103(a)***

The Office Action also rejects claims 1-2, 4-11 and 25 as unpatentable under 35 U.S.C. § 103(a) over Sterman in U.S. Patent No. 3,493,461. Applicants respectfully submit that claims 1-2, 4-11 and 25 meet the standard of 35 U.S.C. § 103(a).

In *KSR Int'l. Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1739 (2007), the Court stated that "a patent composed of several elements **is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.** Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a **reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.** This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known." *Id.* at 1741 (emphasis added). Sterman discusses a glass fiber reinforced polyvinyl chloride resin article and process Therefor. Sterman does not disclose and the addition of general knowledge does not disclose a water insoluble thermoplastic compound has a nonpolar solubility parameter  $\delta_n$  within the range of about 6.5 to about 8.5 g-cal/mole, a polar solubility parameter  $\delta_p$  within the range of zero to about 8.5 g-cal/mole, and a hydrogen bond solubility parameter  $\delta_h$ , within the range of zero to about 7.0 g-cal/mole. Furthermore, Sterman does not disclose the specific polymer compositions of the instant invention in new claims 33-43. For example, Sterman does not disclose a fibrous material; and a water insoluble thermoplastic compound has a molecular weight of at least 2500 g/mole that impregnates the fibrous material, wherein the water insoluble thermoplastic compound comprise about 5-15 weight percent Polyvinyl chloride, about 2-8 weight percent Polyacrylonitrile, about 5-15 weight percent Polymethacrylate, about 5-15 weight percent Polyamideimide, about 5-15 weight percent Polybutylacrylate, about 20-30 weight percent Polystyrene, and about 25-35 weight percent Polybutadiene, to inhibit deposition of one

or more dissolved or particulate contaminants wherein the water insoluble thermoplastic compound has a nonpolar solubility parameter  $\delta_n$  of between 6.75-8 g-cal/mole, a polar solubility parameter  $\delta_p$  of between 4-5 g-cal/mole, and a hydrogen bond solubility parameter  $\delta_h$ , of between 3-4 g-cal/mole.

Accordingly, claims 1-2, 4-11 and 25 are not anticipated by, or rendered obvious from Sterman. Applicants respectfully request the Examiner withdraw the rejection under 35 U.S.C. § 103(a).

***Claims 1-2, 13-17 and 19-30 are rejected under 35 U.S.C. § 102(b)***

The Office Action also rejects claims 1-2, 13-17 and 19-30 under 35 U.S.C. § 102(b) as being as anticipated by or, in the alternative, under U.S.C. § 103(a) as obvious over Nose , et al, (Nose) in U.S. Patent No. 5,068,142, which is said to disclose the claimed invention.

To anticipate a claim, a reference must teach every element of the claim either impliedly or explicitly. See MPEP §2131. As elaborated in *Richardson v. Suzuki Motor Co.*, “[t]he identical invention must be shown in as complete detail as is contained in the claim.” 9 U.S.P.Q.2d 1913, 1920(Fed. Cir. 1987). Further, to anticipate a claim, “a reference must disclose every element of the challenged claim and enable one skilled in the art to make the anticipating subject matter.” *PPG Industries, Inc. v. Guardian Industries Corp.*, 75 F.3d 1558, 1566, 37 U.S.P.Q.2d 1618, 1624 (Fed. Cir. 1996). As stated by the Courts in *Akzo N.V. v. ITC*, 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986) and *Titanium Metals Corp. v. Banner*, 227 U.S.P.Q. 773, 778 (Fed. Cir. 1985), the anticipating prior art reference “must enable one skilled in the art to practice the claimed invention, thus placing the allegedly disclosed matter in the possession of the public.”

Nose provides a fiber-reinforced polymeric resin composite material in which a certain number of reinforcing individual fibers are separately distributed from each other in a polymeric resin matrix and which is free from a generation of gaseous substances even at a high temperature, and a process for producing same. Nose does not disclose and the addition of

general knowledge does not disclose a water insoluble thermoplastic compound has a nonpolar solubility parameter  $\delta_n$  within the range of about 6.5 to about 8.5 g-cal/mole, a polar solubility parameter  $\delta_p$  within the range of zero to about 8.5 g-cal/mole, and a hydrogen bond solubility parameter  $\delta_h$ , within the range of zero to about 7.0 g-cal/mole. Furthermore, Sterman does not disclose the specific polymer compositions of the instant invention in new claims 33-43. For example, Nose does not disclose a fibrous material; and a water insoluble\_thermoplastic compound has a molecular weight of at least 2500 g/mole that impregnates the fibrous material, wherein the water insoluble thermoplastic compound comprise about 5-15 weight percent Polyvinyl chloride, about 2-8 weight percent Polyacrylonitrile, about 5-15 weight percent Polymethacrylate, about 5-15 weight percent Polyamideimide, about 5-15 weight percent Polybutylacrylate, about 20-30 weight percent Polystyrene, and about 25-35 weight percent Polybutadiene, to inhibit deposition of one or more dissolved or particulate contaminants wherein the water insoluble thermoplastic compound has a nonpolar solubility parameter  $\delta_n$  of between 6.75-8 g-cal/mole, a polar solubility parameter  $\delta_p$  of between 4-5 g-cal/mole, and a hydrogen bond solubility parameter  $\delta_h$ , of between 3-4 g-cal/mole.

Applicants respectfully submit that claims 1-2, 13-17 and 19-30 are not anticipated by Nose. Nose does not contain each and every limitation of the present invention. Applicants respectfully request the Examiner withdraw the rejection under 35 U.S.C. § 102(b) and in the alternative the rejection under 35 U.S.C. § 103(a).

***Claims 1-2, 4-17 and 19-30 are rejected under 35 U.S.C. § 103(a)***

The Office Action also rejects claims 1-2, 4-17 and 19-30 as unpatentable under 35 U.S.C. § 103(a) over JP 09141023 ("JP '023"). Applicants respectfully submit that claims 1-2, 4-17 and 19-30 meet the standard of 35 U.S.C. § 103(a).

In *KSR Int'l. Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1739 (2007), the Court stated that "a patent composed of several elements **is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art**. Although common sense directs one to look with care at a patent application that claims as innovation the combination of

two known devices according to their established functions, it can be important to identify a **reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.** This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known." Id. at 1741 (emphasis added). JP '023 does not disclose and the addition of general knowledge does not disclose a water insoluble thermoplastic compound has a nonpolar solubility parameter  $\delta_n$  within the range of about 6.5 to about 8.5 g-cal/mole, a polar solubility parameter  $\delta_p$  within the range of zero to about 8.5 g-cal/mole, and a hydrogen bond solubility parameter  $\delta_h$ , within the range of zero to about 7.0 g-cal/mole. Furthermore, Sterman does not disclose the specific polymer compositions of the instant invention in new claims 33-43. For example, JP '023 does not disclose a fibrous material; and a water insoluble thermoplastic compound has a molecular weight of at least 2500 g/mole that impregnates the fibrous material, wherein the water insoluble thermoplastic compound comprise about 5-15 weight percent Polyvinyl chloride, about 2-8 weight percent Polyacrylonitrile, about 5-15 weight percent Polymethacrylate, about 5-15 weight percent Polyamideimide, about 5-15 weight percent Polybutylacrylate, about 20-30 weight percent Polystyrene, and about 25-35 weight percent Polybutadiene, to inhibit deposition of one or more dissolved or particulate contaminants wherein the water insoluble thermoplastic compound has a nonpolar solubility parameter  $\delta_n$  of between 6.75-8 g-cal/mole, a polar solubility parameter  $\delta_p$  of between 4-5 g-cal/mole, and a hydrogen bond solubility parameter  $\delta_h$ , of between 3-4 g-cal/mole.

Accordingly, claims 1-2, 4-17 and 19-30 are not anticipated by, or rendered obvious from JP 09141023 or any combination thereof. Applicants respectfully request the Examiner withdraw the rejection under 35 U.S.C. § 103(a).

### CONCLUSION

In light of the foregoing, Applicants submit that the claims are in condition for allowance, and an early Notice of Allowance of all pending claims is respectfully solicited.

This paper is being filed with all required fees; however, if any additional fees are necessary the Commissioner is hereby authorized to charge any fees, including those for an extension of time, to Chalker Flores, LLP's Deposit Account No. 50-4863.

If the Examiner has any questions or comments, or if further clarification is required, it is requested that the Examiner contact the undersigned at the telephone number listed below.

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Respectfully submitted,

CHALKER FLORES, LLP



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